

Lizet Christiansen

Curriculum Vitae

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U.S. Geological Survey
345 Middlefield Road, MS 421
Menlo Park, CA 94025
Office: 650-329-4420
Fax: 650-329-4538
lchristi@usgs.gov

749 Seneca Street
Palo Alto, CA 94301
650-328-1813

Education:

Ph.D. 2003	Hydrogeology; Johns Hopkins University
M.A. 1999	Hydrogeology; Johns Hopkins University
B.S. 1997	Biology; University of Maryland Honors Program

Professional Experience:

09/03 – present	National Research Council Postdoctoral Fellow at the U.S. Geological Survey (advisor Dr. Steven Ingebritsen)
09/04 – 12/04	Lecturer at University of California, Santa Cruz
05/97 - 02/03	Research and Teaching Assistant at Johns Hopkins University (advisor Prof. Grant Garven).

Auxiliary Experience:

12/01	AGU Fall meeting session co-chair, Hydrothermal Activity in Back-Arc Basins.
05/01	Participant, R/V Western Flyer, MBARI Hawaii Cruise; Leg 4, Heat Flow Specialist.
11/00 - 01/01	Participant, Ocean Drilling Program Leg 193, Physical Properties Specialist.
08/00 - 09/00	Participant, R/V Thompson Retroflux Cruise, Heat Flow Assistant.
06/99	Participant, 1999 RIDGE Field School: The Troodos Ophiolite.
05/98 - 09/98	Scientific Assistant, Maryland Geological Survey, assessing sand resources in the Atlantic Coastal region through core logging and grain settling analyses.
09/96 - 05/97	Scientific Assistant, University of Maryland at College Park, entomological studies of <i>anopheles stevensi</i> using gel electrophoresis and DNA fingerprinting to track malaria contagion.

Grants:

2001-2003	United States Science Support Program, Ocean Drilling Program Post-Cruise Award: \$22,954 “Permeability and fluid flow in the PACMANUS hydrothermal field.”
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Society Memberships:

American Geophysical Union, Geological Society of America, International Association of Volcanology and Chemistry of Earth's Interior

Teaching Experience:

Lecturer: University of California, Santa Cruz; undergraduate Hydrology

Teaching Assistant: The Planet Earth
Dynamic Earth
Hydrogeology
Ecology

Supervised undergraduate independent research.

Organized Johns Hopkins Univ., Earth and Planetary Sciences Summer Field Trip, 2000.

Honors and awards:

1997 Gilman Fellowship at Johns Hopkins University

1997 University of Maryland Honors Program Citation

1992-1996 Maryland Distinguished Scholar Scholarship

Publications:

Christiansen, L.B., S. Hurwitz, M.O. Saar, S.E. Ingebritsen, P. Hsieh, Seasonal seismicity at western United States volcanic areas, *submitted*.

Christiansen, L.B., and G. Garven, Transient hydrogeologic models for submarine flow in volcanic seamounts: 1. The Hawaiian Islands, *J Geophys Res*, vol.109, B2108, doi:10.1029/2003JB002401, 2004.

Christiansen, L.B., and G. Garven, Transient hydrogeologic models for submarine flow in volcanic seamounts: 2. Comparison of the Hawaiian, Marquesas, and Canary Islands, *J Geophys Res*, vol.109, B2108, doi:10.1029/2003JB002402, 2004.

Christiansen, L.B., and G. Iturrino, Core-scale permeability of an actively venting, felsic, hydrothermal system: The PACMANUS hydrothermal field, *Proc. ODP, Sci. Results, 193*: College Station, TX, (Ocean Drilling Program), 2004.

G. Iturrino, R.A. Ketcham, **L.B. Christiansen**, and G. Boitnott, Data Report: Permeability, resistivity, and x-ray computed tomography measurements in samples from the PACMANUS hydrothermal system, *Proc. ODP, Sci. Results, 193*: College Station, TX, (Ocean Drilling Program), 2004.

Christiansen, L.B., and G. Garven, A theoretical comparison of buoyancy-driven and compaction-driven fluid flow in oceanic sedimentary basins, *J Geophys Res*, 108, 2130, doi:1029/2002JB001956, 2003.

Fisher, A.T., E.E. Davis, M. Hutnak, V. Spiess, L. Zuhlsdorff, A. Cherkaoui, **L. Christiansen**, K. Edwards, B. Macdonald, H. Villinger, M.J. Mottl, C.G. Wheat, and K.

Becker, Hydrothermal recharge and discharge across 50 km guided by seamounts on a young ridge flank, *Nature*, 421, 559-674, 2003.

Binns, R.A., F.J.A.S. Barriga, D.J. Miller, and et al., *Proc. ODP, Init. Repts.*, 193, College Station, TX, (Ocean Drilling Program), 2002. (**Physical Properties Chapters**)

Harris, R.N., G. Garven, J. Georgen, M.K. McNutt, **L. Christiansen**, and R.P. Von Herzen, Submarine hydrogeology of the Hawaiian archipelagic apron 2. Numerical simulations of coupled heat transport and fluid flow, *J Geophys Res*, 105 (B9), 21,371-21,385, 2000.

Conkwright, R.D., C.P. Williams, and **L.B. Christiansen**, Offshore Sand Resources in Northern Maryland Shoal Fields, 94 pp., Maryland Geological Survey, Baltimore, 2000.

Papers in Preparation:

Christiansen, L.B., and G. Garven, Hydrogeologic models of three-dimensional fluid flow and heat transport through submarine seamounts: Effects of geometry and geology, *in preparation*.

Conference Abstracts:

Christiansen, L.B., S. Hurwitz, M.O. Saar, S.E. Ingebritsen, Seasonal seismicity associated with western United States volcanoes (abstract), *EOS Trans AGU*, 85 (47), Fall meeting suppl., 2004.

Christiansen, L.B., S. Hurwitz, M.O. Saar, Annual seismicity and groundwater recharge in the western United States, IAVCEI General Assembly, 2004.

Lowenstern, J.B., A. Ouimette, D. Bergfeld, A. Hunt, G. Landis, C. Janik, F. Goff, P. Shanks, **L. Christiansen**, Variations in gas geochemistry at the Norris geyser basin, Yellowstone National Park: Insights into the cause for the July 2003 hydrothermal disturbance, IAVCEI General Assembly, 2004.

Christiansen, L.B., Fluid flow and pore pressure in the Hawaii, Canary, and Marquesas Islands (invited abstract), *EOS Trans AGU*, 85(28), West. Pac. meet. suppl., 2004.

Christiansen, L.B., and G. Garven, Theoretical comparisons for coupled compaction and free convection in a seamount environment (abstract), *EOS Trans AGU*, 83 (47), Fall meet. suppl., 2002.

Jordahl, K., M. McNutt, and **L. Christiansen**, Low heat flow values measured on the Hawaiian Ridge (abstract), *EOS Trans. AGU*, 82(47) Fall meet. suppl., 2001.

Chapman, D.S., R.N. Harris, **L. Christiansen**, and I. Grevemeyer, Fluid flow through seamounts: Implications for global fluid flux and heat loss (abstract), *EOS Trans. AGU*, 82(47) Fall meet. suppl., 2001.

Hutnak, M., A.T. Fisher, E. Davis, L. Zuehlsdorff, V. Speiss, A. Cherkaoui, R. Macdonald, K.M. Edwards, **L. Christiansen**, and H. Villinger, Seamounts as conduits for hydrothermal fluid discharge and recharge: Examples from the eastern flank of the Juan de Fuca Ridge, Cascadia Basin (abstract), *EOS Trans. AGU*, 82(47) Fall meet. suppl., 2001.

Christiansen, L.B., R.N. Harris, G. Garven, and M.K. McNutt, Hydrogeologic modeling of the Hawaiian Archipelagic Apron and upper oceanic crust (abstract), *EOS Trans. AGU*, 80(46) Fall meet. suppl., 1999.

Presentations:

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| 3/15/04 | Volcano Hazards Team Seminar Team USGS, Menlo Park
“Seasonal Seismicity in Western United States Volcanic Areas.” |
| 8/20/04 | Hawaiian District, USGS, Honolulu
“Fluid Flow and Pore Pressure in the Hawaiian, Canary, and Marquesas Islands.” |
| 8/18/04 | Invited Talk at Western Pacific Geophysics Meeting
“Fluid Flow and Pore Pressure in the Hawaiian, Canary, and Marquesas Islands.” |
| 4/2/04 | University of Missouri
“Core-scale permeability and fluid flow in the PACMANUS hydrothermal field.” |
| 4/1/04 | University of Missouri
“Submarine Fluid Flow in the Hawaiian Islands: An Analysis of Compaction- and Buoyancy-Driven Flow”. |
| 1/15/2004 | Cascades Volcano Observatory, USGS, Vancouver
“Submarine Fluid Flow in the Hawaiian Islands: An Analysis of Compaction- and Buoyancy-Driven Flow”. |
| 10/2/2003 | Water Resources Division, USGS, Menlo Park
“Subsea Heat Flow and Hydrothermal Circulation Near Hawaii.” |
| 1/30/2003 | Thesis Defense, Johns Hopkins University, Baltimore
“Submarine Hydrogeology in Volcanic Seamount Environments: An Analysis of Compaction- and Buoyancy-Driven Fluid Flow.” |